Learning Management Systems' Evaluation Focuses on Technology Not Learning

Cynthia Phelps PhD, Yanko Michea MD
School of Health Information Sciences, University of Texas Health Science Center at Houston

Abstract

Learning Management Systems (LMS) are widely used in educational institutions around the world. The purpose of this poster is to review the characteristics of evaluations of these systems consulting two kinds of sources: Peer-reviewed journals and Web documents. Our results show that the current emphasis is on evaluating the technology, which suggests the need for a theory/pedagogy driven evaluation focused on educational outcomes.

Introduction

Learning Management Systems are a diverse group of software designed to support education in network environments. Several health education programs are currently using, or planning to implement these systems. To make these technologies educationally effective requires careful planning and evaluation.

The evaluation of LMS requires the integration of diverse perspectives such as cost/effectiveness, technical characteristics of the product, commercial characteristics, in addition to educational support for learning. The objective of this article is to analyze the features of LMS that have been published, organizing them to suggest future research needs.

Method

In this study, two sources of information were used: traditional journals and Web pages. Research journals were selected given their popularity in the medical community and their traditional roles as primary source of information or this domain. Web pages were chosen as a source based on their popularity and accessibility.

In order to find research articles, two databases were consulted: PubMed and Eric. These databases offered a complete index of research literature, not only in medical education, but also in other social and educational disciplines. Five terms were used for the search in each database: "Learning Management System", "LMS", "courseware", "WebCT", "Blackboard". As secondary strategy to filter within the search, "education" and "evaluation" were also introduced. The two brand names used in this search were selected given their popularity. The retrieved articles were selected if their content was related with the evaluation of any aspect of LMS. The Web search was done following the same procedure, using a commercial search engine (Google). The pages were selected using the same criteria, restricting our search to the first 30 links returned by the search engine.

The data collection consisted of the identification and tabulation of the salient features identified in each article. New tables were built placing the variables into the following groups: Communications, Education Management, File Management, Web Production, Educational Support, Others.

Results

Thirty four journal references were located, and from this sample, 15 were not related with the topic of our analysis and were eliminated. Another 10 references were not available in our library system at the time of the study. The web search allowed us to recognize 20 web links related with our topic. Seven sites were eliminated because of redundancy (same content in different URL) or because of lack of consistent access.

From the nine Journal References, two were formal evaluations of the introduction of technology interventions; three were qualitative descriptions of local experiences, five were guidelines to select software or software comparisons. The web pages in our study, ten were comparisons and three were guidelines to select LMS.

In both publication groups, evaluations of Communication Features, Education Management and File Management categories were most frequently present (>20% of the references), even though File Management functions were described with much more detail in Web based references (42% of the web sites).

Discussion

The exploratory study shows that the evaluation of LMS is most often focused on the organization of the technical characteristics of these systems. There was scarce evaluation of the on-field use of LMS by students. The evaluation of the learning outcomes depending on the use of these tools is incidental, and the evaluation of the cost-effectiveness of these systems was absent in this review.

Future efforts in health education research must improve our knowledge about the value of these technologies at diverse levels. Most importantly, we need to understand how pedagogy, cognition and technology can be integrated in order to empower learning. We need to be aware that technological upgrades are not equal to improved learning. So far, technology is a tool for industrialized education; the challenge is to develop new paradigms for the Information Era.